

POWER MANAGEMENT METHOD FOR MANAGING DELIVER OPPORTUNITIES IN A WIRELESS COMMUNICATION SYSTEM

ABSTRACT OF THE DISCLOSURE

5 A power management method, in which duration of deliver opportunities for a wireless station (STA) of a WLAN system is managed using a designated sub-field of the frame control field in a MAC header. Either the STA or the access point (AP) can terminate the deliver opportunity, e.g., based on the amount traffic. In one embodiment, the STA is adapted (i) to use the power management sub-field to communicate its power
10 state to the AP and (ii) to run a maximum-wait timer, which starts when the AP is informed that the STA is in the awake state. The STA transitions to the doze state either when it has received a data frame from the AP or when the maximum-wait timer runs out. In another embodiment, the AP and STA manage deliver opportunities by entering a new mode of operation referred to as interactive traffic power management (ITPM)
15 mode. During this mode the power management sub-field is ignored and the more data sub-field is used to communicate the availability of data and to manage transitions of the STA between the awake and doze states. Embodiments of the invention improve WLAN system performance when the traffic load is such that data frames become available for transmission both at the STA and AP at relatively regular intervals, which is typically the
20 case for interactive voice-over-WLAN applications.